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10/828,371	04/20/2004	Michael Charles Cooke	1565.2.16.1	4883

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AUSTIN RAPP & HARDMAN
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EXAMINER

ELISCA, PIERRE E

ART UNIT	PAPER NUMBER
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3714

NOTIFICATION DATE	DELIVERY MODE
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06/08/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptocorrespondence@austin-rapp.com

Office Action Summary	Application No. 10/828,371	Applicant(s) COOKE, MICHAEL CHARLES	
	Examiner Pierre E. Elisca	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,8-20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,8-20 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to Applicant's amendment filed on 10/19/2009.
2. Claims 1-4, 6, 8-20, and 22 are currently pending and have been examined.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1, 10 and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a non-statutory subject matter. Specifically the claims are directed towards an abstract idea.

Claims 1, 10 and 22 recite "electrode unit". However, it is unclear whether or not the "central unit" is a software or device. Therefore, the Examiner interprets the "electrode unit" as software. Accordingly, computer program not claimed as embodied in computer-readable media are descriptive material per se are not statutory because they are neither physical thing nor statutory processes. Claims 1, 10 and 22 recite "electrode unit" which do not define any structural and functional interrelationships with a general purpose for permitting the claimed functions to be realized. In contrast, a statutory claim would define structural and functional interrelationships between data structures or functional parts and a computer which permit the data functions to be realized. Thus, claims 1, 10 and 22 are rejected as being non-statutory as described above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6, 8-10, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofer (5,565,840) in view of Thorner et al. (5,565,840).

Referring to claims 1 and 6, **Hofer teaches a feedback assembly for computer games, the feedback assembly comprising at least one electrode unit (stimulus generating means 312, Fig.8) for delivering stimulation signals in the form of electrical pulses (e.g., current pulses, 2:16-19, 48-55; 3:43-55) to stimulate muscles of part of a players body (9:23-38), the at least one electrode unit being adapted to an arm or leg (9:23-38, it is obvious to realize that the computer unit or electrode unit of Hofer can be attached to an arm or leg), wherein the at least one electrode unit is adapted to deliver to the player stimulation signals in the form of electrical pulses in response to activation signals received from a computer gaming device (figs. 4, 5) at predetermined times to represent events occurring in an activity involving the player (8:22-34), wherein the electrical pulses are delivered to the adjacent skin of the player thereby to stimulate muscle tissue and evoke an involuntary muscular response, and wherein the electrical pulses are controlled to vary the**

stimulation signals delivered by the at least one electrode unit to simulate a hit or a virtual impact during the activity involving the player (3:4-10, 50-65). Note that, the claimed limitation of electrode unit is inherent from the stimulation generating means 312 (Fig.8) of Hofer which received pulses from the control unit 303 via lead 414 (9:23-38); since Hofer disclosed the stimulation generating means being a current impulses producing means (2:51-54), an electrode unit is necessarily existed in order to transfer the current impulses or hit or virtual impact to the player. Further, note that, regarding the claimed feature of the stimulating muscle tissue (by the electrical impulse) that evoked an involuntary muscular response, it is naturally obvious for the muscles to response involuntarily due to external stimulated impulses or forces exerted on a person's skin (e.g., the body response to an electrical shock).

Hofer does not explicitly teach the limitation of the electrode unit being wearable (claims 1 and 6) and the wearable electrode unit comprising a casing (claim 6). Thorner et al., however, teaches a feedback assembly for computer games comprising a wearable vest or hardness having sensation generators for delivering simulation signals to the player (Figs.1, 2). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the wearable vest of Thorner et al. to game feedback system of Hofer to provide a realistic game action feedback experience to game player thus attract more players to play the game.

Referring to claim 2, Thorner et al. teaches the at least one electrode unit is adapted to deliver stimulation signals at predetermined times corresponding to the times at which feedback signals are received by a data processor with the feedback signals representing events occurring in the activity (2:9-29).

Referring to claim 3, Thorner et al. teaches the predetermined times correspond to the times during the activity during which the player receives a simulated impact (relaying particular predetermined action signals e.g. punches, bullet strikes, etc., during game progress) (2:9-29).

Referring to claim 4, Thorner et al. teaches an input device for receiving the activation signals from a data processor used for controlling an activity involving the player (3:2-38).

Referring to claim 8, Thorner et al. teaches the casing is adapted to wrap around the player's limb (upper body)(Fig.2).

Referring to claim 9, Hofer teaches the player's response to stimulation signals is able to be recorded and processed so as to allow adjustment of the intensity of stimulation signals delivered to the player (7:63-8:21).

Referring to claim 10, **Hofer does not explicitly teach the feedback assembly as including a plurality of wearable electrode units each having at least one electrode which is able to deliver stimulation signals independently of each other electrode, wherein the plurality of wearable units are configured to be worn at discrete locations on the player's body thereby to stimulate muscle**

tissue and evoke involuntary muscular responses at those locations on the player's body. Thorner et al., however teaches the feedback assembly for computer games comprising a wearable vest or harness having a plurality sensation generators for delivering simulation signals to the player (figs.1, 2). Hofer and Thorner et al. do not explicitly teach a plurality of wearable electronic accessories. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide additional feedback sensors to other parts of the body to enhance the reality of the game.

Referring to claim 13, Hofer teaches an interface unit which includes a signal generator (312)(Fig.8).

Referring to claim 14, Thorner et al. further teaches the interface unit (104) comprises a housing (computer) with at least one feedback assembly input port (parallel port) for receipt of the activation signals (from game console or computer)(3:3-8).

7. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofer (5,565,840) in view of Thorner et al. (5,565,840), and further in view of Huang et al. (6,135,450).

Hofer and Thorner et al. teach all limitations of claims 1, 13, and 14 above.

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Referring to claims 15-18, Hofer and Thorner et al. do not explicitly teach the interface unit includes accessory input and output ports and a data processor output port for connecting the interface to a data processor (claim 15); the accessory input and output ports are adapted to connect the interface unit to at least one controller for controlling operation of the data processor (claim 16); the interface unit is adapted to be connected to a computer console of a computer game (claim 17); the interface unit includes a data processor for producing a computer generated activity on a display device (claim 18). Huang et al., however, teaches a wearable vibration device for video games comprising an interface unit (16) (Figs.1, 2, 6) includes accessory input and output ports (Fig.2) and a data processor output port for connecting the interface means to a data processor (2:53-65); the accessory input and output ports are adapted to connect the interface unit to at least one controller (34)(Fig.2) for controlling operation of the data processor (38); the interface unit is adapted to be connected to a computer console of a computer game (Figs.2, 6, 7); and the interface means includes a data processor (38) for producing a computer generated activity (on a display device). Note that, the display device is inherent from the video game system. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the separate game interface unit of Huang et al. to the game feedback system of Hofer and Thorner et al. to provide faster processing speed for the input/output feedback interfaces of the video game system thus enhance the reality of the game.

Regarding the limitations of signal generator is adapted to be controlled by an adjustment means to vary a parameter of the stimulation signals so as to vary the

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stimulation signals delivered by the at least one wearable electrode unit to simulate different events occurring during the activity played by the player (claim 19); and the stimulation signals vary in amplitude in direct proportion to the amplitude of the feedback signals (claim 20), it is obvious to control the adjustment parameters of the stimulation signals for comforts.

8. Claims 11, 12, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofer (5,565,840) and Thorner et al. (5,565,840), and further in view of Petrofsky (5,974,342).

Hofer and Thorner et al. teach all limitations of claims 1-4, 6, 8-10, 13, and 14 as being addressed above.

Referring to claims 11 and 12, **Hofer and Thorner et al. do not explicitly teach the feedback assembly comprising a transcutaneous electrical neural stimulation device for controlling the stimulation signals (claim 11); and that the electrical pulses have the following characteristics: 12-80 volts; 40-100 microsecond pulse width; and 2 to 221 Hz (claim 12). Petrofsky, however, teaches an electrical stimulation therapy apparatus provided for a therapy current to be applied for muscle areas comprising a transcutaneous electrical neural stimulation device (Figs. 1, 2, 6); and the device of Petrofsky is capable of generating stimulated electrical pulses having the characteristics of 1-75 volts; 100-300 microsecond pulse width; and 40 to 80 Hz (4:50-65). It would have been obvious to a person of ordinary skill in the art at the time the**

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invention was made to provide the transcutaneous electrical neural stimulation device of Petrofsky to the game current impulse feedback system of Hofer and Thorner et al. to come up with a game feedback system that provides safe and realistic game feedbacks and enhances game experience thus increase game participation from the players.

Referring to claim 22, Hofer teaches a feedback assembly for computer games, the feedback assembly comprising at least one electrode unit (stimulus generating means 312, Fig.8) for delivering stimulation signals in the form of electrical pulses (e.g., current pulses, 2:16-19, 48-55; 3:43-55) to stimulate muscles of part of a players body (9:23-38), the at least one electrode unit being adapted to attach to a part of the player's body (9:23-38), wherein the at least one electrode unit is adapted to deliver to the player stimulation signals in the form of electrical pulses in response to activation signals received from a computer gaming device (figs. 4, 5) at predetermined times to represent events occurring in an activity involving the player (8:22-34), wherein the electrical pulses are delivered to the adjacent skin of the player thereby to stimulate muscle tissue and evoke an involuntary muscular response, and wherein the electrical pulses are controlled to vary the stimulation signals delivered by the at least one electrode unit to simulate different events occurring during the activity involving the player (3:4-10, 50-65). Note that, the claimed limitation of electrode unit is inherent from the stimulation generating

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means 312 (Fig.8) of Hofer which received pulses from the control unit 303 via lead 414 (9:23-38); since Hofer disclosed the stimulation generating means being a current impulses producing means (2:51-54), an electrode unit is necessarily existed in order to transfer the current impulses to the player. Further, note that, regarding the claimed feature of the stimulating muscle tissue (by the electrical impulse) that evoked an involuntary muscular response, it is naturally obvious for the muscles to response involuntarily due to external stimulated impulses or forces exerted on a person's skin (e.g., the body response to an electrical shock).

Hofer does not explicitly teach the limitation of the electrode unit being wearable. Thorner et al., however, teaches a feedback assembly for computer games comprising a wearable vest or hardness having sensation generators for delivering simulation signals to the player (figs.1, 2). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the wearable vest of Thorner et al. to game feedback system of Hofer to provide a realistic game action feedback experience to game player thus attract more players to play the game.

Further, Hofer and Thorner et al. do not explicitly teach the feedback assembly comprising a transcutaneous electrical neural stimulation device for controlling the stimulation signals; and that the electrical pulses have the following characteristics: 12-80 volts; 40-100 microsecond pulse width; and 2 to 221 Hz. Petrofsky, however, teaches an electrical stimulation therapy

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apparatus provided for a therapy current to be applied for muscle areas comprising a transcutaneous electrical neural stimulation device (Figs. 1, 2, 6); and the device of Petrofsky is capable of generating stimulated electrical pulses having the characteristics of 1-75 volts; 100-300 microsecond pulse width; and 40 to 80 Hz (4:50-65). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the transcutaneous electrical neural stimulation device of Petrofsky to the game current impulse feedback system of Hofer and Thorner et al. to come up with a game feedback system that provides safe and realistic game feedbacks and enhances game experience thus increase game participation from the players.

Response to Arguments

9. Applicant's arguments with respect to claims 1-4, 6, 8-20, and 22 have been considered but are moot in view of the new ground(s) of rejection.

REMARKS

10. In regard to Applicant's arguments filed on 10/19/2009, Applicant argues that the prior art of record fail to disclose the recited feature:

a. wherein the electrical pulse are controlled to vary the stimulation signals delivered by the at least one wearable electrode unit to simulate a hit or a virtual impact during the activity involving the player. However, the Examiner respectfully disagrees with this assertion since Hofer discloses a stimulation generating means being a current impulses producing means (2:51-54), and therefore an electrode unit is necessarily

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existed in order to transfer the current impulses to the player. Further, note that, regarding the claimed feature to stimulate a hit or a virtual impact during the activity involving the player. It is naturally obvious for the muscles to response involuntarily due to external stimulated impulses or forces exerted on a person's skin (e.g., the body response to an electrical shock).

b.at least one wearable electrode unit being adapted to attach to an arm or leg of the player. It is obvious to realize that the computer unit or electrode unit of Hofer can be attached to an arm or leg).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre E. Elisca whose telephone number is 571 272 6706. The examiner can normally be reached on 6:30 to 5:00. Hoteler.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571 272 4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pierre E. Elisca/
Primary Examiner, Art Unit 3714